CLAIMS

[1] A condition detecting sensor, comprising:

a first antenna arranged on one of the two members moving toward and away from each other,

a second antenna arranged on the other member and paired with the first antenna,

a generator generating signal waves,

a mixer connected to the first antenna, the second antenna, and the generator and mixing signals, and

a band-pass filter connected to an output of the mixer and passing only prescribed frequency bands,

wherein the condition detecting sensor senses a distance between the two members, as well as the presence of objects between the two members, by sensing the strength of the signal outputted from the band-pass filter.

[2] The condition detecting sensor according to claim 1, comprising an S-meter measuring the strength of signals outputted from the band-pass filter.

[3] The condition detecting sensor according to claim 1, comprising an S-meter measuring VSWR values in the output of the band-pass filter.

[4] The condition detecting sensor according to claim 3 performing the sensing of objects by taking the second derivative of the VSWR value.

[5] The condition-detecting sensor according to claim 1, comprising a downconverted signal generator generating a downconverted signal wave,

wherein the band-pass filter detects only a difference between the signal wave and the downconverted signal wave.